

**REMARKS**

Claims 2-9, 11, 13-27, 30-32 are pending in the application.

Claims 8 and 9 have been allowed.

Claims 2-7, 11, 13-23, 30 and 32 have been rejected.

Claims 24-27 have been objected to.

Claims 2, 3, 7, 11 and 32 have been amended as set forth herein.

Claims 2-9, 11, 13-27, 30-32 remain pending in this application.

Reconsideration of the claims is respectfully requested.

I. **CLAIM REJECTIONS -- 35 U.S.C. § 102**

Claims 2-7, 8-9, 11, 13-14, 16-23, 27, 30 and 32 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,285,766 to *Kumamoto* (hereinafter “*Kumamoto*”). This rejection is respectfully traversed.

Claim 15 was rejected under 35 U.S.C. § 102(b) as being unpatentable by *Kumamoto* and further in view of U.S. Patent No. 6,668,061 to *Abel* (hereinafter “*Abel*”). This rejection is respectfully traversed.

Claims 30 and 31 were rejected under 35 U.S.C. § 102(b) as being unpatentable by *Kumamoto* and U.S. Patent 6,804,356 to *Kawano* (hereinafter “*Kawano*”). This rejection is respectfully traversed.

A prior art reference anticipates the claimed invention under 35 U.S.C. § 102 only if every element of a claimed invention is identically shown in that single reference, arranged as they are in the claims. MPEP § 2131, p. 2100-76 (8th ed., rev. 4, October 2005) (*citing In re Bond*, 910 F.2d 831, 832, 15 U.S.P.Q.2d 1566, 1567 (Fed. Cir. 1990)). Anticipation is only shown where each and every limitation of the claimed invention is found in a single prior art reference. *Id.* (*citing Verdegaal Bros. v. Union Oil Co. of California*, 814 F.2d 628, 631, 2 U.S.P.Q.2d 1051, 1053 (Fed. Cir. 1987)).

The Office Action argues that *Kumamoto* teaches each and every limitation recited in independent Claims 2, 3, 7, 11, 18 and 32 and their dependent Claims. Claims 2, 3, 7 and 11 have been amended to recite, *inter alia*, “a controller configured to cause the virtualizer to virtualize the at least one speaker at any location in a space around the listener.”

*Kumamoto* teaches an apparatus for sound image localization. *Kumamoto* expressly teaches that the apparatus does not include a controller. *Kumamoto* teaches that controllers are a problem to be avoided. *Kumamoto* states “[the] third problem relates to a controller included in a computer system, such as DSP” and “[it] is yet another object of the present invention to provide a sound image localization apparatus realizing sound image localization with good precision by simplifying operational processing when the computer system does not include a high-performance DSP.” (*Kumamoto*, col. 4, lines 28-30 and col. 5, lines 1-5). *Kumamoto* does not teach or suggest a controller configured to cause the virtualizer to virtualize the at least one speaker at any location in a space around the listener. Therefore, *Kumamoto* does not teach each and every limitation recited in independent Claims 2, 3, 7 and 11 as currently amended.

The Office Action rejects Independent Claim 18. The Office Action states “claims 18-19 have been analyzed and rejected with respect to claim 1.” However, Claim 1 was cancelled in the previous response. Accordingly, the Office Action has not clearly articulated a rejection so that the Applicants have the opportunity to provide evidence of patentability and otherwise reply completely.

Furthermore, Claim 21, which depends from, and further limits, independent Claim 18, recites “controller operable to configure the apparatus.” The Office Action cites *Kumamoto* (col. 5, lines 1-6) to teach this controller. However, as stated herein above, *Kumamoto* (col. 5, lines 1-6) expressly teaches that no controller is included. Thus, *Kumamoto* cannot be reasonably interpreted as disclosing a controller operable to configure the apparatus.

Independent Claim 32 has been amended to recite, *inter alia*, “altering a frequency response of one or more of the filters and a delay of one or more of the delay lines to change the location of one or more of the virtualized speakers.” The Office Action cites *Kumamoto* (Figures 6-12; and col. 12, lines 1-35) to teach this limitation. The cited portion of *Kumamoto* reads:

In FIG. 3, the crosstalk canceling signal generating filter 206a included in the first example (FIG. 2(b)) of the sound image localization apparatus, comprises delaying units 211a and 211c to 211f, multiplier 210x1 to 210x5, and an adder 203i. The crosstalk canceling signal generating filter 206b comprises delaying units 211b and 211g to 211j, multipliers 210x6 to 210x10, and an adder 203j. The parts in FIG. 3 represented by the dashed lines, such as the multipliers 210x1 to 210x5 and the delaying units 211c to 211f, show that the number of multipliers or delaying units is variable.

The main-path filter 207a comprises delaying units 211c to 211f, multipliers 210m1 to 210m5, and an adder 203e. The main-path filter 207b comprises delaying units 211g to 211j, multipliers 210m6 to 210m10, and an adder 203f. The crosstalk-path filter 208a comprises delaying units 211c to 211f and 211n to 211p, multipliers 210c1 to 210c5, and an adder 203g. The crosstalk-path filter 208b

comprises delaying units 211g to 211j and 211k to 211m, multipliers 210c6 to 210c10, and an adder 203h.

Multipliers 210a1 and 210a2 function as attenuators to prevent overflow in executing fixed point calculation. Delaying units 211k to 211p are employed to produce the time difference between both cars.

As the filters in FIG. 3 include the delaying units 211c to 211j, the crosstalk canceling signal generating filer and the direction localizing filter receive the same input signals, as signals vL or vR shown in FIG. 2(b). Hence, compared with the case where the input of each filter is held, it is possible to reduce the amount of memory required to hold signals.

FIG. 4 shows the example using IIR filters. In this example, a crosstalk canceling signal generating filter comprises IIR filter FXIs 212a and 212b. A main-path filter comprises IIR filter FMIs 213a and 213b. A crosstalk-path filter comprises IIR filter FCIs 214a and 214b. Those IIR filters are concatenated with the FIR filters shown in FIG. 3. (*Kumamoto*, col. 12, lines 1-35)

The cited portion of *Kumamoto* does not disclose “altering a frequency response” as recited by independent Claim 32 as currently amended. Therefore, *Kumamoto* does not teach each and every limitation recited in independent Claims 32, as currently amended.

Accordingly, the Applicant respectfully requests that the the § 102 rejections with respect to Claims 2, 3, 7, 11, 18 and 32, and their dependent claims, be withdrawn.

The Applicants also disagree with the Office Action's rejections of Claims 2-7, 11, 13-23, 30 and 32 based on additional misdescriptions and/or misapplications of *Kumamoto*, *Abel* and *Kawano* to at least some of Claims 2-7, 11, 13-23, 30 and 32. However, the Applicants' arguments regarding those other shortcomings of *Kumamoto*, *Abel* and *Kawano* are moot in view of the arguments above. However, the Applicants reserve the right to dispute in future Office Action responses the

appropriateness and the applications of *Kumamoto*, *Abel* and *Kawano* to the claims of the present application, including the right to dispute assertions made in the September 18, 2008 Office Action.

**II. ALLOWABLE CLAIMS**

The Examiner allowed Claims 8-9.

The Examiner objected to Claims 24-27 as being dependent upon a rejected base claim, but suggested that Claims 24-27 would be allowable if it were rewritten in independent form including all the limitations of the base and intervening claims. Applicants thank the Examiner for this suggestion but elect not to rewrite Claims 24-26 at this time.

Additionally, Claim 27 already is written in independent form. Accordingly, since the Examiner has indicated that Claim 27 would be allowable if rewritten in independent form, Applicants believe that Claim 27 is allowable.

CONCLUSION

As a result of the foregoing, the Applicant asserts that the remaining Claims in the Application are in condition for allowance, and respectfully requests an early allowance of such Claims.

If any issues arise, or if the Examiner has any suggestions for expediting allowance of this Application, the Applicant respectfully invites the Examiner to contact the undersigned at the telephone number indicated below or at [wmunck@munckcarter.com](mailto:wmunck@munckcarter.com).

The Commissioner is hereby authorized to charge any additional fees connected with this communication or credit any overpayment to Deposit Account No. 50-0208.

Respectfully submitted,

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